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## AFRL launches first experimental micro-satellite

*by Anne Gunter, AFRL Public Affairs*

*CAPE CANAVERAL, Fla.* — Preliminary results of the Air Force Research Laboratory’s XSS-10 micro-satellite mission are in and they spell s-u-c-c-e-s-s.

Strapped aboard a Boeing Delta II rocket, the first on-orbit experimental micro-satellite launched into space at 1:06 p.m. Wednesday from Cape Canaveral Air Force Station, Fla., and began feeding real-time results to ground control Thursday.

“The integrated visual camera, propulsion system, and guidance and control software all performed extremely well,” said Thom Davis, XSS-10 program manager, AFRL’s Space Vehicles Directorate, Kirtland Air Force Base, N.M.

At approximately 7 a.m., the team initiated the primary mission pass and ejected the XSS-10 from the second stage of the Delta II rocket. The separation went as planned and the XSS-10 drifted about 200 meters from the second stage. The team then visually acquired the second stage with the integrated camera system. This mission called for the XSS-10 to acquire and track the second stage, then perform three intervals of inspection maneuvers at varying distances from the Delta II as it circles 800 kilometers above the Earth. According to program officials, it successfully completed that mission.

Telemetry was briefly lost between the micro-satellite and the ground tracking station at the end of the primary mission sequence, but picked up again through a different ground station within 10 minutes. According to Davis, the team then successfully put the micro-satellite into sleep mode and reactivated it as planned, to test its on-board software.



*CAPE CANAVERAL, Fla.* — The Boeing Delta II rocket and Global Positioning lifts off 29 Jan. from Cape Canaveral Air Station, Fla., carrying the Air Force Research Laboratory’s XSS-10 micro-satellite. During its 20-hour mission, the 68-pound XSS-10 separated from the second stage of the Delta II to demonstrate its ability to inspect and navigate around the second stage while in orbit 800 kilometers above earth. Photo courtesy of Boeing.

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# news@afrl

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<http://extra.afrl.af.mil/news/index.htm>

## **Safety officer honored for inspection results**

*by Eva D. Hendren, Directed Energy Directorate*

**KIRTLAND AIR FORCE BASE, N.M.** — When the New Mexico Environmental Department made a “No-Notice Inspection” at Kirtland Air Force Base, the Air Force Research Laboratory was saved costly fines due to the efforts of Janet Roshau, safety officer for the Directed Energy Directorate.

Roshau, recently named the Environmental Safety and Occupational Health Professional of the Year, was presented with the award by the laboratory site’s vice commander, Col. Michael DeLorenzo, at a ceremony in December.

She was recognized, in part, for being personally responsible in AFRL’s earning of a “no violation” outcome from this inspection. Had the laboratory received an infraction for a safety violation from the New Mexico Environmental Department, the cost per infraction would have been \$25,000 a day. By avoiding the fines, Roshau and her crew saved the laboratory hundreds of thousands of dollars.

Lauded as the expert in hazardous waste at Kirtland, she is frequently asked to perform training for base employees. Roshau has even been called upon to provide hazardous waste training at a quarterly Environmental, Safety, and Occupational Health meeting for safety representatives from around the state.

Roshau is responsible for the quarterly inspections of 36 sites at Kirtland, and ensures the proper storage and disposal of hazardous materials.

“I feel I am solely responsible for maintaining safety for the facilities at Kirtland Air Force Base, so my job is to keep them safe while keeping them in business,” said Roshau.

She works with the facilities as a first line of defense against safety infractions, while trying not to disturb the ongoing work of the site employees.

Roshau has developed safety procedures for sites such as White Sands Missile Range and North Oscura Peak to ensure compliance with Federal, State, and Army environmental regulations. She created a Hazardous Waste Training Program for the laboratory’s Maui Space Surveillance Small Quantity Generator site. The program provided training to the site personnel of a 270-day hazardous waste storage. @

**Find additional Fe@tures on the web.....**

**MN members selected for Test Pilot School**

**ML scientist earns basic research award**

**Col. Robert McHale Named Deputy**

# ML and Wilberforce U. sign educational partnership

by Pete Meltzer Jr., Materials and Manufacturing Directorate

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — The Air Force Research Laboratory's Materials and Manufacturing Directorate (ML) and Wilberforce University entered into a new era of cooperation December 19, signing an "Educational Partnership Agreement" developed to encourage the study of science, mathematics and engineering.

The agreement sets a number of cooperative measures into motion, including a special provision that enables Wilberforce University students and faculty to take part in ML research and development projects in exchange for academic credit, and another that enables ML to loan or transfer surplus research equipment to the school.

The agreement was signed by Dr. Charles E. Browning, ML's director, and Wilberforce University President, Dr. Floyd H. Flake during formal ceremonies at the ML laboratory complex. Distinguished guests at the signing also included Dr. Elvilee Banks, vice president of Academic and Student Affairs, Dr. Emeka Morah, vice president of Adult and Continuing Education, and Moses Griffin, executive assistant to the president of the University.

The ceremony was preceded by a tour of ML laboratory facilities and briefings from engineers and scientists. Dr. Flake and the distinguished guests also met with AFRL Commander, Maj. Gen. Paul D. Nielsen, during their visit.

"The Educational Partnership Agreement (EPA) provides Wilberforce University faculty and students with access to ML's hardware, personnel and facilities, and provides a unique opportunity to work in an R&D setting that would not otherwise be available in an educational environment," stated Dr. Edmund H. Moore, a materials engineer and program manager in the directorate's Systems Support Division, who helped coordinate the effort.

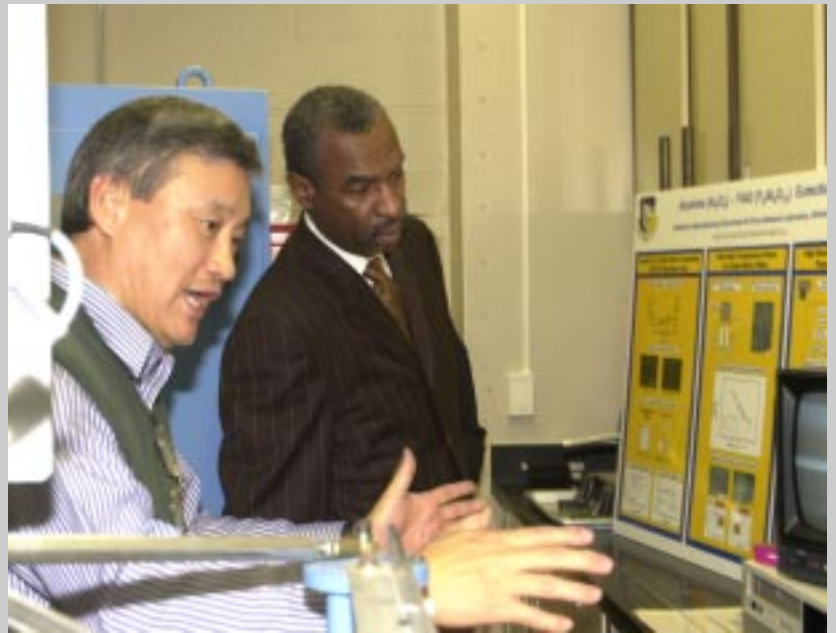
"The students and faculty will have an opportunity to work within ML's unique laboratory facilities and benefit from the expertise here, and the school will be able to acquire surplus research instrumentation through loan or transfer," Moore explained, citing as an example, surplus computing equipment soon to be turned over to the school by the directorate's Survivability and Sensor Materials Division.

## Air Force Laboratory experiments with satellite leadership

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Certain Air Force Research Laboratory senior civilian leaders will now have flexibility in where they live and where they work.

A new alternative duty location policy was approved last week for five AFRL directorates. Under the new policy, civilian senior leaders of directorates that operate out of multiple locations will get to choose where they live. These leaders include the director, deputy director, associate director and chief scientist civilian positions. The individual must reside where at least 10 percent of that particular directorate's staff is located.

This test policy specifies that the directorate's headquarters would



Dr. Tai-il Mah, left, a contractor working at the Materials and Manufacturing Directorate's Metals, Ceramics and Nondestructive Evaluation (NDE) Division, briefs Dr. Floyd H. Flake, president of Wilberforce University, during a tour of the Directorate's laboratory facilities. (Air Force photo)

AFRL personnel will be available to teach courses related to science, mathematics and engineering and to assist in developing these types of courses. A member of ML's Manufacturing Technology Division recently completed a two-year career-broadening assignment teaching mathematics there, Moore said.

AFRL personnel will also be available to provide academic and career advice assistance to students. In some instances, students join ML as full-time researchers, he added.

The EPA with Wilberforce University is not the first time ML has entered into a partnership with education. The directorate signed a similar agreement with Tuskegee University in 2001. In addition, several ML scientists and engineers serve as mentors and adjunct professors at neighboring universities. ML also plays an active role in educational outreach programs with Dayton-area public schools.

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remain at its current location where the majority of the staff is located.

The technology directorates that qualify for this program include the Human Effectiveness Directorate with three sites at Brooks City Base, Texas, Mesa Research Site, Ariz. and Wright-Patterson; the Information Directorate with two sites, Rome, N.Y. and Wright-Patterson; the Propulsion Directorate with two sites, Edwards Air Force Base, Calif., and Wright-Patterson; the Space Vehicles Directorate with two sites, Kirtland, N.M., and Hanscom Air Force Base, Mass.; and the Sensors Directorate with three sites, Rome, Hanscom and Wright-Patterson. @

# Five from AFRL named as Modern Day Technology Leaders

by Jill Bohn, AFRL Public Affairs

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—The Air Force Research Laboratory will be represented by five 2003 Modern-Day Technology Leaders who will be recognized during the Black Engineer of the Year Awards Conference in February.

Dr. Emmanuel E. Boakeye, Joseph Gordon, Roderic C. Perry, Lloyd Reshard and Capt. Reginald J. Turner have been identified as 'young up-and-comers in engineering, information technology, or science, whose early career and personal accomplishments make them outstanding role models for other blacks who may aspire to follow them into these career fields', according to Eric Addison, managing editor, Black Engineer.com.

"AFRL prides itself of having the world's best personnel in place, conducting research critical to the U.S.," said Maj. Gen. Paul D. Nielsen. "Congratulations to our Modern Day Technology Leaders, who are all tremendous assets to the lab, and deserve this prestigious honor."

Boakeye is a Research Scientist for UES Inc. in the Ceramics Research Group of the Materials and Manufacturing Directorate. He plays an essential role in developing solution chemistry approaches to designed microstructures for a variety of applications, principally fiber-coatings for ceramic composites.

Gordon is the Chief of the Planning Branch, Corporate Investment Strategy Division, Plans and Programs Directorate.

He is the principal advisor to the AFRL Commander for the development of the Air Force Science and Technology Plan.

Perry is an electronics engineer in the Sensors Directorate, Wright Patterson Air Force Base, Ohio. He serves as an electronics warfare program manager for multi-spectral sensor technologies used for enhanced situation awareness, friend/foe targeting, and real-time information into the cockpit that will be utilized in current and future Air Force platforms.

Turner is the director of the Directed Energy Directorate's Laser, Survivability and Effects Test Facility at Kirtland Air Force Base, N.M. He is responsible for planning and maintaining the test schedule, and establishing facility test protocols and policies for a team of 25 scientists, engineers and technicians in laser phenomenology research.

Reshard is a senior electronics engineer at the Munitions Directorate, Eglin Air Force Base, Fla. He serves as the weapon platform integration team leader. He is responsible for the technical management and direction of advanced engineering developments and weapon-platform integration demonstrations.

In addition to receiving a certificate of recognition at the 17<sup>th</sup> annual awards conference, Baltimore, Md., the men will be profiled in U.S. Black Engineer & Information Technology.

The conference is held to promote diversity and encourage minorities in engineering and science. @

# Sweet delivery on its way to deployed service members

by 2nd Lt. Morgan J. O'Brien III, AFRL Public Affairs

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — A sweet treat is in store for many deployed service members with a craving for candy. Thanks to the sugarcoated kindness of a few companies and coordination by a collection of caring persons, a large amount of candy is en route to those deployed worldwide.

"Just knowing that someone back home cares—whether I knew them or not—was so important to me during my deployments," said retired Chief Master Sgt. Barbara Nie, now a RCF Information Systems Inc. contractor at Air Force Research Laboratory. Nie recently had the opportunity to spearhead an effort to move 27,000 pounds of candy to the deployed men and women of the armed forces.

Nie called for help in corraling supplies for the deployed service members from personnel all over Wright-Patterson Air Force Base. Jon Fox, a Robbins-Gioia, LLC, contractor who works in logistics at the Air Force Materiel Command received the email and quickly replied.

"Taste and smell are often strong 'memory joggers'," said Fox. "My thoughts were that a taste of candy could possibly bring a reminder of home, or someplace special. Perhaps a piece of candy might provide a momentary 'morale boost' for a serviceperson wherever they are deployed."

This request ended up in the hands of Fox's father, Duane, who recently retired from Spangler Candy Company as senior executive vice president. The elder Fox passed the information along to Susan Fussel, director of public relations for National Confectioners Association and Chocolate Manufacturers Asso-

ciation, who then placed information about the opportunity in a newsletter for the National Confectioners Association.

Hershey Foods Corporation, of Hershey, Pa., jumped on the opportunity to donate to the deployed service members. Hershey Chocolate North America is the nation's leading domestic producer of chocolate and non-chocolate confectionery products, as well as chocolate-related grocery products.

Such a large donation requires a tremendous amount of logistics. The 27,000 pounds of Hershey candy required the company to work with the United Services Organization to get the sweets in the hands of deployed troops. The USO is organized to handle such large donations, and will ensure the candy will get to a wide selection of troops supporting Operation Enduring Freedom and other operations around the world.

Hershey's is not the first company to donate candy to deployed troops. Sweet City donated sixty pounds of caramels. Additionally, 75 pounds of Moovitz caffeinated candy also reached the troops.

Other major candy and lozenge producers have shown interest in donating goods to deployed troops. Nie thinks an ongoing drive with the USO would work out beautifully for both the industry and the military.

"As an enlisted person, you are engrained with the lesson that taking care of your troops is what your supposed to do," said Nie, "It's good to see that there are many Americans out there who consider them 'their troops' as well." @



# AFRL skydiver trains with Army Golden Knights Team

by 2nd Lt. J. Elaine Hunnicutt, AFRL Public Affairs

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Air Force Research Laboratory's Maj. Rhonda Reichel is off to train with the Army Golden Knights Skydiving Team at their Winter Camp in Lake Wales, Fla.

This Staples, Minn., native has been jumping for less than 20 months. "I was driving down the road and looked up and saw a sky full of canopies ... I just felt I had to do it too."

Reichel has many athletics accolades to her name, but her most recent fancy is skydiving. She was the Montana State Road Race Female Champion in 1996 and completed the Olympic trials for Individual Time Trials that same year. She was the Female National Military Cycling Champion in both 1998 and 1999, where she rode more than 100 miles in three days.

Reichel's goals are as spectacular as her accomplishments. "I am going to be the (female skydiving) world champion someday," she said.

Her most recent skydiving accomplishment was participating in the Conseil Internationale du Sports Militaire (CISM) World Military Parachuting Championships Oct. 14 to 25 in Oran Algeria, North Africa. This was a competition among military parachuting teams from around the world; more than 40 countries were represented. The U.S. Women's Team placed second overall, behind an experienced Russian Team, according to Reichel.

Reichel's team was made up of herself, three women from the Army Golden Knights; Master Sgt. Cheryl Stearns, Sgt. 1st Class Elisa Feldt, and Sgt. Angela Nichols; and Air Force Capt. Stacie Schorzman.

Stearns, a seven-time world champion with more than 15,000 jumps, has been jumping for 30 years.

Reichel competed on the Freefall Style Team, which placed third overall, where quick and precise pre-coordinated turns are judged via high-tech telescope-like equipment on the ground. She was also part of the Accuracy team, which placed fourth overall. Accuracy involves maneuvering a large canopy to land as close to a three-centimeter target as possible.

This 1991 Air Force Academy graduate was asked to jump with the world-renowned Army Golden Knights after they saw her compete at Nationals.

## Micro-satellite (from page 1)

While small in size, the 65-pound satellite had a big mission in space. "The micro-satellite demonstrated key technologies that included miniature communication systems, a lightweight propulsion system, advanced lithium polymer batteries, and autonomous operations through specially developed software," said Davis.

With most of the mission completed, scientists are now studying images and data beamed from the XSS-10's space-to-ground link system.

"The last 24 hours has been both very exciting and successful for the XSS-10 micro-satellite demonstration," said Davis. "This mission will serve as a building block for micro-satellite missions. This technology allows access to space at a relatively low cost and paves the way for the future." @



AFRL Maj. Rhonda Reichel makes her approach during the Conseil Internationale du Sports Militaire World Military Parachuting Championships Oct. 14 to 25 in Oran Algeria, North Africa.

"Jim (Reichel's coach) suggested competing in Nationals ... I won for the Style Intermediate Class and the (Golden Knight) CISM Team needed another female member."

Her coach, Jim West, Owner/Operator of Skydive Greene County, has been jumping out of perfectly good airplanes for more than 40 years and has more than 15,000 jumps under his belt. "He was very supportive and taught me the ropes from the beginning and is now my coach," said Reichel.

"She is an amazing person and stood out from the beginning. Most students take two months to get off of student status; she did it in two days," said West.

After completing student training in record time, West asked Reichel to jump with him. "I described a maneuver I wanted her to try; I couldn't believe she comprehended a routine ... it was not like the belly flying she had done in training. She acted like she had been jumping all of her life and didn't question anything." @

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# Net Index

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Due to the number of submissions we receive, some sections of *news@afrl* are available exclusively on-line. The on-line version of the newsletter allows users to view the AFRL corporate calendar, news releases generated by AFRL headquarters, operating instructions, L@b L@urels and Roundups sections.

The L@b L@urels section of the electronic newsletter is dedicated to members of Air Force Research Laboratory who receive awards and honors. The Roundups section of the electronic newsletter keeps Air Force Research laboratory employees informed about contracts AFRL has awarded. Below is an index of articles one can find in each of these on-line sections.

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## L@b L@urels

- AFRL Rome engineer honored by SDRG
- Fourth quarter award winners announced

## Roundups

- AFRL awards more than \$54M for anti-terrorism research
- Rome awards \$1.6M contract vehicle to ARMA
- Air Force is developing a solid-state laser

To view the full text of these and other articles visit the *news@afrl* page on the Internet at <http://extra.afrl.af.mil/news/index.htm>.

To submit L@b L@urels or Roundups from your directorate, send a query to AFRL Public Affairs at:

[Jill.Bohn@afrl.af.mil](mailto:Jill.Bohn@afrl.af.mil)

*For more on these stories see news@afrl  
<http://extra.afrl.af.mil/news/index.htm>*

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## AFRL NEWSBRIEFS

### *AFRL Major selects announced*



*WRIGHT-PATTERSON AIR FORCE BASE, Ohio* — Those selected include Robert E. Allard, Carol D. Anderson, Joseph G. Bouchard Jr., Richard D. Branam, Ren H. Broyles, Michael J. Calidonna, Kyle J. Freundl, Cheryl M. Gerhardstein, James K. Hall, Trae D. Holcomb, William R. Hurtle, Mark T. Isaac, Bret B. Kreh, Kevin Laroche, Michael J. Lauden, Jeffery B. Salter, Karl C. Schloer, Mark B. Skouson, Michael T. Swart and Reginald J. Turner. @

### *New IEEE Chair named*

*HANSCOM AIR FORCE BASE, Mass.* — Michael J. Callahan, SNRT, was elected as Chair of the Mohawk Valley Section of the Institute of Electrical and Electronics Engineers for the 2003 term. Callahan previously held positions as Secretary and Treasurer of the Section. He replaces William Baldygo, also of SNRT.

Callahan joined Rome Air Development Center, in Rome, N.Y. His current research interests include monostatic and bistatic aerospace surveillance radar and adaptive radar signal processing. @